

THE WEATHER OF THE MONTH.

By Mr. P. C. DAY, Assistant Chief, Division of Meteorological Records.

PRESSURE.

The distribution of mean atmospheric pressure for October, 1906, over the United States and Canada is graphically shown on Chart VI, and the average values and departures from the normal are shown for each station in Tables I and V.

October, 1906, was characterized by an unusual extension northeastward of the high pressure area that normally covers the Middle Atlantic States, and the crest of high mean pressure for the month was transferred from the region of the Appalachian Mountains to the extreme eastern portions of the Canadian Maritime Provinces, where average values of 30.15 inches or above, were recorded.

From Kansas northwestward to the Pacific coast a ridge of high pressure prevailed, with average readings of 30.15 inches, or above, over the northern coast of California and the western part of Oregon.

Pressure averaged low along the northern boundary from the Great Lakes westward to the Pacific, over the south Atlantic coast and over southern California and southwestern Arizona.

The departure from the normal pressure over New England and northeastward over New Brunswick and Nova Scotia was marked, ranging from +0.10 to +0.21 inch, while along the south Atlantic coast negative departures from -0.05 to -0.10 inch prevailed. Negative departures were quite pronounced over the Canadian Northwest Provinces, while over the entire Rocky Mountain Plateau and Pacific coast region, except southern California, the pressure averaged above the normal.

Under the above-mentioned distribution of mean atmospheric pressure, the surface winds over New England, the Middle and South Atlantic, and east Gulf States were mainly from the northeast. Over the upper Missouri Valley and westward to Washington they were largely from the south, while over California northerly winds predominated.

The areas of high pressure that moved eastward across the country were generally well pronounced and moved in tracks well south of their usual course so early in the season. But few low areas crossed the entire country from the Pacific and those generally originated north of the boundary and moved eastward without causing severe winds or heavy rains, except over the extreme northwestern portion of Washington.

Several storms originated over the southwest, moved northeastward to the Lakes, entered the great eastward drift and past down the St. Lawrence.

The entire section from the upper Missouri Valley westward and southwestward to the Pacific coast was remarkably free from extended disturbances.

TEMPERATURE.

The mean temperature for the month was generally above the normal over the entire region north of the fortieth parallel and over the southern Plateau and south Pacific coast. It was below normal over the Gulf States, lower Ohio and Mississippi valleys, Texas, and the southern Rocky Mountain slope.

Over Arkansas, western Oklahoma, northwestern Texas and adjacent territory the month was exceptionally cold.

Unusually cold weather accompanied the high pressure area that overspread nearly all sections of the country east of the Rocky Mountains, from the 9th to the 12th, and freezing weather, with killing frosts, was general over all sections covered as far south as the central parts of the Gulf States.

During the progress of the above cold area eastward, minimum temperatures as low or lower than ever before recorded so early in the month occurred at numerous points.

Temperatures below zero were recorded in the mountain sections of Colorado, during the passage of an area of high pressure over the Rocky Mountain region from the 22d to the 24th.

In Canada.—Prof. R. F. Stupart says:

The mean temperature of October was higher than the average in nearly all parts of the Dominion, with the largest positive departures, ranging between 3° and 5°, in the more central portions of New Brunswick and in southern Alberta and Saskatchewan.

The frosts recorded in the various provinces were not unusually severe, and in western Canada they were less pronounced than the average.

Average temperatures and departures from the normal.

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since January 1.	Average departures since January 1.
		°	°	°	°
New England	9	51.3	+ 1.0	+ 7.8	+ 0.8
Middle Atlantic	13	56.0	0.0	+11.8	+ 1.2
South Atlantic	10	62.5	- 0.6	+ 4.2	+ 0.4
Florida Peninsula*	8	73.1	- 0.2	+ 0.6	+ 0.1
East Gulf	8	62.7	- 3.1	- 6.6	- 0.7
West Gulf	7	63.6	- 3.5	- 4.8	- 0.5
Ohio Valley and Tennessee	12	55.8	- 0.7	+ 3.4	+ 3.3
Lower Lake	8	51.2	- 0.1	+13.4	+ 1.3
Upper Lake	10	47.9	+ 0.7	+19.5	+ 2.0
North Dakota*	8	45.4	+ 2.3	+22.3	+ 2.2
Upper Mississippi Valley	13	52.1	- 0.4	+ 7.1	+ 0.7
Missouri Valley	11	51.9	- 0.6	+ 9.8	+ 1.0
Northern Slope	7	47.1	+ 1.0	+10.3	+ 1.0
Middle Slope	6	52.6	- 2.7	- 1.4	- 0.1
Southern Slope*	6	55.8	- 5.6	-14.9	- 1.5
Southern Plateau*	13	58.3	+ 0.2	+ 0.1	0.0
Middle Plateau*	8	48.7	+ 0.3	- 0.9	- 0.1
Northern Plateau*	12	50.7	+ 2.7	+17.9	+ 1.8
North Pacific	7	53.3	+ 1.9	+13.6	+ 1.4
Middle Pacific	5	61.1	+ 3.0	+12.5	+ 1.2
South Pacific	4	66.1	+ 2.7	+ 9.5	+ 1.0

• Regular Weather Bureau and selected cooperative stations.

PRECIPITATION.

Over the greater part of New England, the Atlantic and Gulf coast districts, the Lake region, and the central Rocky Mountain and Great Plains regions, the monthly rainfall was above the average. Over the Appalachian Mountain region the rainfall was unusually heavy, and in parts of Virginia and Maryland rainfall was almost continuous from the 16th to the 21st.

Heavy rains occurred over eastern Texas on the 13th and 14th, accompanying a slight depression of the barometer in that section on those dates. The fall at Galveston amounted to nearly 8.00 inches in twenty-four hours. Rain turning into heavy snow occurred over the central Rocky Mountain region from the 19th to the 23d. The snowfall during the above period over the eastern sections of Colorado and Wyoming and western Nebraska was remarkably heavy for the season, the depth of fall in the mountain sections reaching as much as three feet and exceeding any previous record of snowfall for October.

Over the Mississippi Valley, western Texas, and generally west of the Rocky Mountains the rainfall was deficient. Over California and western Arizona the month was abnormally dry. Practically no rain occurred over the entire southern part of California and western Arizona. Over the northwestern part of Washington there was a general excess of precipitation with remarkably heavy falls at a few stations. Much cloudy weather prevailed over the Middle and South Atlantic States, but elsewhere the month was one of abundant sunshine and generally favorable for the successful prosecution of the usual outdoor occupations.

In Canada.—Professor Stupart says:

The precipitation was in excess of the normal in British Columbia, in Ontario east of Lake Superior, and in Quebec, while in the Western Provinces and in the Maritime Provinces there was a deficiency. The excess near the Pacific coast appears to have been most pronounced on Vancouver Island and on the upper mainland, with more average conditions on the lower mainland. In Ontario the excess was almost general and probably averaged about one-third more than the normal; in Quebec the normal was only slightly exceeded in western districts and was not reached in the eastern portion; in Nova Scotia and New Brunswick the

deficiency was small. Heavy local snowfalls occurred on the highlands of central Ontario on or about the 10th, and a light fall occurred in southern Ontario on the 29th. In other parts of Canada the snow recorded, if any, was little beyond a flurry.

Average precipitation and departures from the normal.

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
		Inches.		Inches.	Inches.
New England.....	9	3.68	97	-0.1	-1.1
Middle Atlantic.....	13	4.19	156	+1.5	+1.9
South Atlantic.....	10	3.34	89	-0.4	-1.8
Florida Peninsula *.....	8	3.18	67	-1.6	+4.4
East Gulf.....	8	3.33	122	+0.6	+2.4
West Gulf.....	7	3.59	120	+0.6	-6.7
Ohio Valley and Tennessee.....	12	2.20	88	-0.3	-4.1
Lower Lake.....	8	5.38	175	+2.3	-1.8
Upper Lake.....	10	2.99	100	0.0	-2.2
North Dakota *.....	8	0.41	41	-0.6	+1.4
Upper Mississippi Valley.....	13	1.49	62	-0.9	-1.4
Missouri Valley.....	11	2.08	111	+0.2	+1.1
Northern Slope.....	7	1.46	170	+0.6	+2.7
Middle Slope.....	6	1.78	113	+0.2	+2.2
Southern Slope *.....	6	1.84	95	-0.1	+3.9
Southern Plateau *.....	13	0.30	43	-0.4	+2.7
Middle Plateau *.....	8	0.39	38	-0.6	+3.8
Northern Plateau *.....	12	0.63	51	-0.6	-0.9
North Pacific.....	7	4.52	100	0.0	-6.9
Middle Pacific.....	5	0.14	8	-1.6	+2.5
South Pacific.....	4	0.01	12	-0.6	+5.8

* Regular Weather Bureau and selected cooperative stations.

Average cloudiness and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England.....	6.0	+ 0.5	Missouri Valley.....	4.8	+ 0.9
Middle Atlantic.....	6.7	+ 1.9	Northern Slope.....	4.7	+ 0.5
South Atlantic.....	5.2	+ 0.4	Middle Slope.....	4.0	+ 0.9
Florida Peninsula.....	4.4	+ 0.3	Southern Slope.....	3.7	+ 0.9
East Gulf.....	4.7	+ 1.1	Southern Plateau.....	1.8	- 0.2
West Gulf.....	4.0	+ 0.4	Middle Plateau.....	2.7	- 0.5
Ohio Valley and Tennessee.....	5.5	+ 1.0	Northern Plateau.....	4.8	- 0.3
Lower Lake.....	6.6	+ 0.8	North Pacific.....	6.9	+ 1.0
Upper Lake.....	6.6	+ 0.5	Middle Pacific.....	2.8	- 0.4
North Dakota.....	5.3	+ 0.2	South Pacific.....	1.7	- 1.3
Upper Mississippi Valley.....	5.7	+ 1.3			

Average relative humidity and departures from the normal.

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England.....	80	+ 1	Missouri Valley.....	66	- 1
Middle Atlantic.....	79	+ 3	Northern Slope.....	66	+ 7
South Atlantic.....	78	0	Middle Slope.....	66	+ 7
Florida Peninsula.....	81	+ 1	Southern Slope.....	71	+ 9
East Gulf.....	76	+ 3	Southern Plateau.....	42	- 1
West Gulf.....	72	0	Middle Plateau.....	45	0
Ohio Valley and Tennessee.....	73	+ 2	Northern Plateau.....	55	- 8
Lower Lake.....	80	+ 6	North Pacific.....	82	+ 2
Upper Lake.....	79	+ 1	Middle Pacific.....	54	-11
North Dakota.....	72	+ 2	South Pacific.....	56	-14
Upper Mississippi Valley.....	71	0			

Maximum wind velocities.

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
Bismarck, N. Dak.....	28	60	nw.	Mount Tamalpais, Cal.....	19	50	n.
Do.....	29	54	nw.	Do.....	20	54	n.
Block Island, R. I.....	6	50	nw.	Do.....	21	51	n.
Do.....	31	51	n.	Mount Weather, Va.....	6	54	nw.
Buffalo, N. Y.....	8	51	sw.	Do.....	7	50	nw.
Do.....	9	50	sw.	Do.....	9	54	nw.
Do.....	25	60	sw.	Do.....	27	66	nw.
Do.....	27	63	sw.	Nantucket, Mass.....	31	60	ne.
Do.....	28	75	sw.	New York, N. Y.....	6	50	nw.
Burlington, Vt.....	9	54	s.	Do.....	7	58	nw.
Cape Henry, Va.....	9	52	n.	North Head, Wash.....	2	70	se.
Canton, N. Y.....	25	55	sw.	Do.....	11	62	se.
Charleston, S. C.....	20	64	n.	Do.....	15	67	se.
Chicago, Ill.....	27	50	nw.	Do.....	16	57	s.
Cleveland, Ohio.....	6	55	w.	Do.....	25	53	s.
Do.....	7	54	w.	Point Reyes Light, Cal.....	2	50	nw.
Do.....	8	50	w.	Do.....	3	50	nw.
Do.....	27	60	w.	Do.....	12	66	nw.
Do.....	28	52	w.	Do.....	16	62	nw.
Duluth, Minn.....	27	50	nw.	Do.....	17	70	nw.
El Paso, Tex.....	5	52	ne.	Do.....	18	71	nw.
Do.....	13	60	ne.	Do.....	19	50	n.
Hatteras, N. C.....	6	52	nw.	St. Louis, Mo.....	27	60	nw.
Do.....	15	50	n.	Salt Lake City, Utah.....	21	52	ne.
Jupiter, Fla.....	18	60	ne.	Sand Key, Fla.....	17	54	ne.
Key West, Fla.....	18	54	nw.	Do.....	18	75	nw.
Lincoln, Nebr.....	26	54	nw.	Santa Fe, N. Mex.....	21	53	se.
Mount Tamalpais, Cal.....	2	72	nw.	Southeast Farallon, Cal.....	17	50	nw.
Do.....	3	50	nw.	Do.....	18	58	nw.
Do.....	10	54	nw.	Syracuse, N. Y.....	8	50	s.
Do.....	11	60	nw.	Tatoosh Island, Wash.....	24	56	s.
Do.....	15	50	nw.	Do.....	25	57	s.
Do.....	16	53	nw.	Toledo, Ohio.....	8	56	sw.
Do.....	17	50	nw.				

DESCRIPTION OF TABLES AND CHARTS.

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For description of tables and charts see page 38 of Review for January, 1906.